

ABSTRACT

The present invention provides a novel method for electrical connection between a polymer PTC device and a metal lead element to thereby prevent the problems of the connection by caulking or soldering. For this purpose, the present invention provides a process for producing a connection structure by laser welding, said connection structure comprising (A) a PTC device (10) including (i) a laminar polymer PTC element (12) and (ii) a metal foil electrode (14) disposed on a main surface of the laminar polymer PTC element (12), and (B) a metal lead element (20) electrically connected to the metal foil electrode, wherein the metal foil electrode (14) comprises at least two metal layers, and a metal layer (16) which has the lowest laser beam absorption among the metal layers of the metal foil electrode (14) (the X-th layer having a laser beam absorption of a%) is present between a metal layer (18), of the metal foil electrode, located farthest from the laminar polymer PTC element (12) (the first layer having a laser beam absorption of b% ($b > a$)) and the laminar polymer PTC element (12).